UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,538	07/20/2001	Paul Hopewell	GB920000033US2	1972

25259   7590   03/15/2005

IBM CORPORATION
3039 CORNWALLIS RD.
DEPT. T81 / B503, PO BOX 12195
REASEARCH TRIANGLE PARK, NC 27709

EXAMINER
CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
09/909,538</td><td>Applicant(s)
HOPEWELL ET AL.</td></tr>
<tr><td>Examiner
Chongshan Chen</td><td>Art Unit
2162</td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2004*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to Amendment filed on 26 November 2004. Claims 1-17 are

pending.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

3.   Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

4.   Please define the "PUT operation" in the claim.

5.   Please be consistent when using "messages", "message" and "a message" in the claim.

Appropriate corrections are required.

6.   Please change "such commit" in line 7 of claim 1 to "the commit". Corrections are

required for other similar problem.

7.   Claim 1 recites the limitation "the sending application" in line 9. There is insufficient

antecedent basis for this limitation in the claim. Examiner suggests changing the phrase to "the

sending application program". Corrections are required for other lack of antecedent basis

problem.

8.   Please change "being so assigned" in line 15 of claim 1 to "being assigned".

9.   Regarding claim 1, 13 and 16, examiner is unclear what condition causes the commit of

the PUT operation. Appropriate correction is required.

10.   Regarding claim 1, applicant claims "the assignment of the index key is deferred until a

commit occurs of the PUT operation, whereby, prior to such commit, the message will be on the

queue but not index key will be assigned to the message". However, the specification states "the

primary key 160 is assigned 120 at message put time 110 (in response to an application issuing a

Put command 100) and is modified 135 in response to commit 130 of the put operation. The

secondary index key 170 is assigned when the message put operation is committed. The primary

index key 160 includes a message priority value and a time stamp for sequencing, and

identification of the queue manager ..." (specification, page 19, line 17 – page 20, line 21, Fig. 2

and 3). Clearly, the primary index key is assigned to the message before the commit of the PUT

operation and there is no defer in assigning the primary key, which contradicts with the claim

that the assignment of the index key is deferred until a commit occurs of the PUT operation.

Appropriate correction is required.

11.   Regarding claim 2, examiner is unclear what is "other criteria of the retrieval request".

Appropriate correction is required.

12.   Regarding claim 13, applicant claims "postponing the assigning an index key to a

message to be in response to such commit of the PUT operation", which contradicts with the

specification ("the primary key 160 is assigned 120 at message put time 110 ...", specification,

page 19, line 17 – page 20, line 21, Fig. 2 and 3, there is no postpone in assigning the primary

key). Appropriate correction is required.

13.   Regarding claim 14, examiner is unclear what is "other criteria of the retrieval request".

Appropriate correction is required.

14.   Regarding claims 15 and 16, applicant claims "assigning an index key to a message after

a delay to be in response to commit of the operation of putting the message on the queue", which

contradicts with the specification ("the primary key 160 is assigned 120 at message put time 110

...", specification, page 19, line 17 – page 20, line 21, Fig. 2 and 3, there is no delay in assigning

the primary key). Appropriate correction is required.

15.   Regarding claim 17, examiner is unclear what is "other criteria of the retrieval request".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

17.   Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chandra et

al. ("Chandra", 6,058,389) in view of Hallmark et al. ("Hallmark", 5,857,180).

As per claim 1, Chandra teaches a method of managing retrieval of messages from a

shared queue, where a plurality of receiving applications are retrieving messages from the same

shared queue, where a PUT operation is used to place a message onto the shared queue, and

where a message on the queue is not to be accessed until a subsequent commit of the PUT

operation occurs with each message on the queue having been sent by a sender application

program, the method comprising:

assigning an index key to a message in response to such commit of the PUT operation,

wherein the assigned index key comprises an attribute value of the message which was specified

by the sending application when the message was sent, so that the assignment of the index key is

deferred until a commit occurs of the PUT operation, whereby, prior to such commit, the

message will be on the queue but no index key will be assigned to the message and therefore the

message cannot be received by a receiver application (Chandra, col. 19, lines 46-49, col. 12, line

61 - col. 13, line 65); and

in response to a receiver application program requesting retrieval of messages from the

queue and specifying the attribute value (Chandra, Fig. 9A-9C, col. 16, lines 6-55),

whereby the index key being so assigned to the message in response to said commit

provides an index which is usable for identifying only committed messages having the particular

application-specified attribute value (Chandra, col. 19, line 45 - col. 20, line 60).

Chandra does not explicitly teach monitoring the availability of messages in the queue.

Hallmark teaches monitoring the availability of messages in the queue (Hallmark, col. 14, lines

2-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system of Chandra by incorporating the monitoring of the

availability of messages in the queue as disclosed by Hallmark (Hallmark, col. 14, lines 2-5).

The motivation being to provides the system the functionality to automatically retrieve messages

without the needs to constantly check when the message is available. This makes the system

more efficient.

As per claim 2, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 1, and further teach in response to the monitoring step identifying the availability of a

committed message in the queue which has the assigned index key (Hallmark, col. 14, lines 2-5),

determining whether the message matches other criteria of the retrieval request (Chandra, col.

16, line 17 - col. 17, line 65, col. 19, line 45 - col. 20, line 60); and in response to a positive

match, sending a response to the application program which issued the request (Chandra, Fig.

9A-9C).

As per claim 3, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 2, and further teach wherein the response includes the message which matches the

request (Chandra, Fig. 9A - 9C).

As per claim 4, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 1, and further teach wherein the attribute value included in the assigned index key is a

message identifier or a correlation identifier (Chandra, col. 13, lines 31-36, col. 15, lines 4-8).

As per claim 5, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 1, and further teach wherein receiver application programs are able to issue retrieval

requests with a wait attribute (Chandra, col. 16, lines 33-36), and wherein the method includes:

responsive to no messages which match the request being available in the queue when the

request is issued, triggering a monitoring process to perform the monitoring step (Chandra, col.

18, lines 8-19, Hallmark, col. 14, lines 2-5); and

responsive to the monitoring step identifying the availability of a committed message in

the queue having said assigned index key, determining whether the message matches a waiting

retrieval request and, if matching, sending a response to the application program which issued

the request (Chandra, Fig. 9A - 9C, col. 16, lines 6 - 55)

As per claim 6, Chandra and Hallmark teach all the claimed subject matters as discussed in claim 1, and further teach wherein the queue is a shared access queue held in a list structure of a Coupling Facility to which a plurality of resource managers can connect to put messages on the queue and to retrieve messages from the queue on behalf of respective sender and receiver application programs (Chandra, Fig. 2, col. 6, lines 64-65, col. 12, lines 19-22).

As per claim 7, Chandra and Hallmark teach all the claimed subject matters as discussed in claim 6, and further teach wherein the step of assigning an index key at commit time comprises a resource manager which put the message on the shared queue providing the attribute value to the Coupling Facility in response to committing the put operation, the Coupling Facility then building the index key and storing it in association with the enqueued message (Chandra, col. 12, line 61 - col. 13, line 24, col. 19, lines 46-57).

As per claim 8, Chandra and Hallmark teach all the claimed subject matters as discussed in claim 6, and further teach the assigned index value for each message is held in a predefined control data area of the Coupling Facility list structure which holds the queue (Chandra, Fig. 2, Fig. 4B, col. 20, lines 1-9).

As per claim 9, Chandra and Hallmark teach all the claimed subject matters as discussed in claim 8, and further teach wherein the predefined control data area of the Coupling Facility list structure is a Coupling Facility list entry control data area, and the predefined control data area holds a message identifier and a correlation identifier for the message, the assigned index key comprising one of said message identifier or correlation identifier (Chandra, Fig. 2, 4B, col. 19, lines 46-49).

As per claim 10, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 6, and further teach wherein the monitoring step is performed by a monitoring process

within the Coupling Facility in response to receipt of a retrieval request which specifies said

attribute value, the monitoring process including:

means for determining whether an identified available message matches all criteria of the

received retrieval request (Chandra, Fig. 9A-9C, col. 16, lines 6-55); and

means, responsive to a positive match, for sending a response to the application program

which issued the request (Chandra, Fig. 9A-9C, col. 16, lines 17-22).

As per claim 11, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 10, and further teach invoking said means for determining a match for all identified

messages in said queue which have said assigned index value corresponding to the application-

specified attribute value (Chandra, Fig. 9A-9C, col. 16, lines 6-55, col. 19, lines 46-57).

As per claim 12, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 1, and further teach wherein the assigned key comprises a secondary index key

representing a sender-application-assigned attribute and can be used to identify messages in

response to a retrieval request which specifies said attribute, and an additional primary index key

comprising sequencing information is assigned to a message when the message is placed on the

queue; and wherein the primary index key is used to select a message for retrieval from the

available messages identified in the monitoring step which used the secondary key (Chandra, col.

19, line 44 - col. 20, line 9, col. 16, lines 17-55).

Claims 13-14 are rejected on grounds corresponding to the reasons given above for

claims 1-2.

Claim 15 is rejected on grounds corresponding to the reasons given above for claim 1.

As per claim 16, Chandra teaches a data processing apparatus including:

storage means (Chandra, col. 4, lines 18-35);

a data processor (Chandra, col. 4, lines 18-35);

a resource manager component for storing messages within a queue and storing index keys in association with the enqueued messages for use in retrieval of the messages from the queue (Chandra, col. 4, lines 50-55, col. 19, line 45 - col. 20, line 9), the resource manager component including:

means for assigning an index key to a message after a delay to be in response to commit of the operation of putting the message on the queue, wherein the assigned index key comprises an attribute value of the message which was specified by the sending application when the message was sent (Chandra, col. 12, line 62 – col. 16, line 62, col. 19, line 45 - col. 20, line 9); and

means, responsive to a receiver application program requesting retrieval of messages from the queue and specifying the attribute value (Chandra, Fig. 9A-9C, col. 16, lines 6-55),

whereby the index key assigned to the message in response to said commit provides an index which is usable for identifying committed messages having the particular application-specified attribute value (Chandra, col. 19, line 45 - col. 20, line 60).

Chandra does not explicitly teach monitoring the availability of messages in the queue. Hallmark teaches monitoring the availability of messages in the queue (Hallmark, col. 14, lines 2-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Chandra by incorporating the monitoring of the

availability of messages in the queue as disclosed by Hallmark (Hallmark, col. 14, lines 2-5).

The motivation being to provides the system the functionality to automatically retrieve messages

without the needs to constantly check when the message is available. This makes the system

more efficient.

As per claim 17, Chandra and Hallmark teach all the claimed subject matters as discussed

in claim 16, and further teach wherein the resource manager component includes means,

responsive to the monitoring step identifying the availability of a committed message in the

queue which has the assigned index key (Hallmark, col. 14, lines 2-5), for determining whether

the message matches other criteria of the retrieval request (Chandra, col. 16, line 17 - col. 17,

line 65, col. 19, line 45 - col. 20, line 60), and the apparatus further includes means, responsive

to a positive match, for sending a response to the application program which issued the request

(Chandra, Fig. 9A-9C).

Response to Arguments

18.   Applicant's arguments filed on 26 November 2004 have been fully considered but they

are not persuasive.

19.   As per applicant's arguments regarding the references do not teach delay assigning an

index key until after commit have been considered but are not persuasive. The specification

states "the primary key 160 is assigned 120 at message put time 110 (in response to an

application issuing a Put command 100) ..." (specification, page 19, line 17 – page 20, line 21,

Fig. 2 and 3). Clearly, the primary index key is assigned to the message before the commit of the

PUT operation and there is no delay in assigning the primary key to the message. Applicant's

arguments contradict with the specification. Therefore, the arguments are not persuasive.

Conclusion

20.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chongshan Chen whose telephone number is (571)272-4031.

The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John E Breene can be reached on (571)272-4107. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
March 12, 2005

JEAN M. CORNELUS
PRIMARY EXAMINER